

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WANLASS et al.

Application No.: 10/551,598

Filed: September 30, 2005

Attorney Docket No.: NREL 01-52

For: MONOLITHIC PHOTOVOLTAIC
ENERGY CONVERSION DEVICE

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) Group Art Unit: 1795
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) Examiner: Golam Mowla
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) Confirmation No.: 1452
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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

In an Office Action dated December 22, 2009, the Examiner required restriction under 35 U.S.C. §§ 121 and 372 between five groups:

Group I	Claims 1-49, drawn to a photovoltaic cell;
Group II	Claims 50-54, drawn to a photovoltaic cell;
Group III	Claims 55-67, drawn to a photovoltaic cell;
Group IV	Claims 68-75, drawn to a photovoltaic cell; and
Group V	Claims 76-77, drawn to a light emitting diode;

According to the Office, Groups I - V are not so linked as to form a single general inventive concept under PCT Rule 13.1 and therefore restriction of the invention to one of the five listed groups is required under 35 U.S.C. §§ 121 and 372. Office Action, page 2. Applicants respectfully traverse.

Before addressing the merits of the present Office Action, Applicants wish to clarify recent prosecution activity for the subject application. Previously, in an Office Action dated August 6, 2009, the claims were subjected to a restriction requirement between 2 groups: (I) claims 1-75, drawn to a photovoltaic cell/device, and (II) claims 76-77, drawn to a light emitting diode. Applicants duly filed a response to the August 6, 2009, Office Action on September 8, 2009. Neither the previous Office Action of August 6, 2009, nor the Response dated September 8, 2009, were mentioned in the Office Action dated December 22, 2009.

In an attempt to clarify this discrepancy, the undersigned called Examiner Mowla on December 30, 2009, and Examiner Mowla indicated that the Office Action dated August 6, 2009, had been rescinded in favor of the Office Action dated December 22, 2009. In view of this conversation, Applicants are now responding to the instant Office Action as if the previous Office Action of August 6, 2009, was not issued and the Response dated September 8, 2009, was not filed.

Turning to the present Office Action, the Office contends that Groups I – V lack a common special technical feature over what is disclosed in U.S. Patent No. 5,912,068 to Jia. Applicants submit that each of the claims in Groups I – V share a special technical feature that is not disclosed in the '068 patent. Namely, each claim shares a compliant substrate comprising a base layer of silicon having a layer of perovskite oxide positioned thereon and a layer of silicon oxide interposed there between, the silicon oxide layer providing interfacial stress relief to the underlying perovskite oxide layer, allowing the compliant substrate to accommodate growth of semiconductor materials having a lattice constant from about 5.4 angstroms to about 5.9 angstroms. The '068

patent, at best, discloses a distinct substrate that does not share the structure or properties recited above. While the '068 patent may disclose similar materials, the structures recited in claims 1-77 of the instant application are entirely different than those in the '068 patent.

Accordingly, Applicants respectfully request that the Restriction Requirement be withdrawn. However, to be fully responsive, Applicants provisionally elect to prosecute Group I, claims 1-49, drawn to a photovoltaic cell.

The Examiner has also indicated that claims 1, 50, 55 and 68 are generic and required the election of a single species of compound (Ga- or Ge-based). Office Action, pages 2-3. The Examiner has further required that, in the event that Ga-based compounds are elected, a subspecies of compound (Ga, In, As and P or Ga, In, As and Sb) must also be elected. *Id.* Applicants traverse the election of species requirement on the grounds that all of the identified species and subspecies share the special technical feature recited previously. As discussed above, and contrary to the Office's assertion, this technical feature is not disclosed in the '068 patent.

Accordingly, Applicants respectfully request that the full scope of the claimed invention be examined in this application without an election requirement. However, to be fully responsive, Applicants provisionally elect Species A comprising gallium-based compounds and Sub-Species A₁ (Ga, In, As and P) for prosecution. If the Examiner chooses to maintain the election requirement, and should the elected species be found allowable, Applicants expect the Examiner to continue to examine the full scope of the claimed subject matter to the extent necessary to determine the full scope of the

patentability thereof, *i.e.*, extending the search to the non-elected species, as is the duty of the Examiner according to M.P.E.P. § 803.02 and 35 U.S.C. § 121.

As discussed above, Applicants respectfully traverse the restriction and election of species and sub-species requirements. However, to be fully responsive, Applicants provisionally elect to prosecute Group I, claims 1-49. Further, Applicants provisionally elect Species A and Sub-Species A₁ for prosecution in the instant application. Claims 1-9, 11-40, and 42-49 of Group I read on these elected species and sub-species.

If the Examiner believes a telephone conference would be useful in resolving any outstanding issues, the Examiner is invited to call the undersigned at 303-384-7551. In the event that any fees are due in connection with this response, please debit Deposit Account No. 14-0460.

Dated: January 5, 2010

Respectfully submitted,

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